

PHASE CONTRAST MICROSCOPE

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Abstract

PURPOSE: To reduce the influence of a spatial frequency component and to reproduce an accurate phase difference image in the case a specimen to be observed is comparatively thick by constituting a phase plate in a state where it has plural different modulation areas.

CONSTITUTION: As to this phase contrast microscope, an annular aperture 2 is arranged on the pupil position of an illuminating optical system 1 having a condenser lens 1a, the phase plate 4 is arranged on the pupil position of an image-formation optical system 3 having an objective lens 3a which has a conjugate positional relation with the aperture 2 through the surface of the specimen, the specimen 5 arranged on the surface of the specimen is illuminated by the illuminating optical system 1, and the phase difference image is observed at the image surface 6 of the image-formation optical system 3. The plate 4 has plural different modulation areas. That is, the plate 4 had better has an annular area modulating phase and amplitude nearly conjugate with the annular aperture arranged on the pupil position of the illuminating optical system 1, and an annular absorbing area or light shielding area, so that the contrast component of the phase difference image in proportion to the phase difference amount of the specimen can be emphasized.

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